

Appl. No. 09/955,879
Atty. Docket No. 8293R
Amdt. dated February 23, 2004
Reply to Final Office Action of October 22, 2003
Customer No. 27752

REMARKS

The Specification has been amended to correct a typographical error.

Claims 1-5, and 7-11 are pending in the present application. No additional claims fee is believed to be due.

Claim 1 has been amended to more specifically characterize the invention. Support for amendments is found at page 10, lines 4-5 and at page 16, line 1, of the Specification.

Claim 1 has further been amended to eliminate the description of the nonwoven web as a "single layer" nonwoven web. This description was added in previous amendments to Claim 1. As noted by Examiner the "made from" language used in Claim 1 is "open language that does not preclude the inclusion of other layers or materials." Consequently, removal of the description of the nonwoven web as a "single layer" does not result in a material change to the scope of Claim 1.

As kindly noted by Examiner, there was an error in the original numbering of the claims; there was no Claim 5. As a result, Claims 6-11 have been renumbered [former claim 7 had previously been cancelled].

Rejection Under 35 USC 103(a)

The Examiner has rejected Claims 1-5 and 7-11 under 35 USC 103(a) as being unpatentable over Kirby, et al. (U.S. Patent No. 5,533,991) in view of Brock, et al. (U.S. Patent No. 4,041,203).

Before traversing the rejection, Applicants wish to clarify the invention for the Examiner. The various nonwoven webs that have previously been described are either strong and abrasion resistant, or soft, but not all three at once. Applicants have surprisingly discovered a nonwoven web that is strong, abrasion resistant, *and* soft. The nonwoven web has greater than about 30% consolidation in order to increase its strength and render its surfaces abrasion resistant. The consolidation area also produces a relatively high bending rigidity, which correlates to a decreased softness. Applicants have surprisingly discovered that by stretching the web, the bending rigidity intrinsic to the relatively highly consolidated nonwoven web can be significantly reduced, thereby reintroducing softness, without a corresponding decrease in abrasion resistance resulting in a strong, soft, and abrasion resistant web.

As the standard for assessing obviousness, MPEP §706.02(j) lists the three requirements for establishing a prima facie case of obviousness under 35 U.S.C. §103:

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(1) First, there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference(s) to arrive at the claimed invention.

(2) Second, there must be a reasonable expectation of success.

(3) Finally, the prior art reference must teach or suggest all of the claim limitations.

Importantly, it is only after the Examiner has satisfied the burden of demonstrating a prima facie case of obviousness that the patent applicant must come forth with proof demonstrating patentability over the cited art. It is respectfully submitted that these three requirements have not been met and therefore a prima facie case of obviousness has not been established.

Kirby relates to a biocomponent cover that is constructed of two different materials. One of the materials is preferably a liquid-permeable nonwoven web, which can be made from polyolefins including polypropylene spunbond. Kirby discloses that the two materials may be bonded to each other by a mechanical attachment, an adhesive, an ultrasonic bond, a thermal bond, a pressure bond or a combination of both heat and pressure (Column 7, lines 35-38). As Examiner makes clear, Kirby does not explicitly disclose that the nonwoven web has a consolidation area of at least about 30% or at least 40%. Examiner concludes that consolidation of a significant area of the second material is implied in Kirby, because its second material could be a spunbond, and that a spunbond, as defined in the Dictionary of Fiber & Textile Technology, 7th edition, has filaments bonded by methods such as hot-roll calendaring and consolidation of significant area is expected. Examiner further notes that the reference does not explicitly disclose a consolidation area of at least about 30% or at least 40%.

Brock discloses nonwoven fabrics for use in applications such as garments, wipes and the like. This reference discloses the use of bonding to achieve ply attachment between the disclosed mat and web so as to create coherent, strong constituents so that the resulting material has the desirable strength characteristics. Brock discloses that after bonding, the area of the web occupied by the bonds is about 5-50% of the surface area of the material. In addition, the reference discloses that the material exhibits good abrasion resistance in that the surfaces do not tend to get fuzzy or raise a pile during use. With respect to the continuous filament web side, the abrasion resistance obtained is believed to be attributable to the fact that the filaments are strongly held within the discrete bond areas without breakage, thus avoiding the presence of long filament spans which would tend to "fuzz-up" during use.

Examiner concludes that it is reasonable to presume that the claimed fuzz removal value is inherent to the invention of Kirby despite its silence on the matter. Examiner's support for said

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conclusion is found in the use of the same starting materials (i.e. fibrous nonwoven web of thermoplastic materials), like processes of making the articles (i.e. thermal bonding), and production of similar end products (i.e. materials that provide a soft and comfortable surface adjacent to the wearer's skin). In the alternative, Examiner contends that the claimed function of "fuzziness" would obviously have been provided as a result of the inventive nonwoven web with 5-50% bonding area that has good abrasion resistance in that the surfaces do not tend to get fuzzy or raise pile during use of the Brock reference. Further, it is the Examiner's position that the Kirby et al. provides the material presently claimed with the property of softness in terms of bending rigidity and Brock et al provides the teaching of consolidation and teaches how fuzz is removed from their invention. It is the Examiner's position that the combination of the high bond area, fuzz removal and softness are inherent to a nonwoven produced as taught by the Kirby et al. and Brock et al. references.

Applicants respectfully traverse the Examiner's position. Applicants assert that it is known in the art to achieve soft webs as described in Kirby et al. and that it is know to achieve higher strength and abrasion resistance webs as described in Brock et al. However, as claimed by the present invention, it is not disclosed or taught in the art how to achieve all three characteristics of softness, strength, and abrasion resistance in a nonwoven web. Increasing the consolidation area will increase abrasion resistance as disclosed in Brock et al.; however, this will also decrease softness. Therefore, one having ordinary skill in the art would not have been motivated to combine the references as Kirby et al. and Brock et al. as the softness taught in Kirby et al. would be lost when the consolidation area is increased.

As described in the claims, the present invention requires that the nonwoven web have a consolidation area of at least about 30%. This help to increase the strength and reduce the fuzz removal. The nonwoven web is then stretch resulting in a soft web having a lower bending rigidity without losing the fuzz removal. Although Kirby et al. and Brock et al. each teaches some of these benefits, the references do not teach or suggest the consolidation and then stretching of a nonwoven web to achieve a strong, soft, abrasion resistant web. Therefore, one having ordinary skill in the art would not have been motivated to develop the present invention based on the disclosure in Kirby et al. and Brock et al.

Claims 8-9 were rejected by the Examiner under 35 USC 103(a) as being unpatentable over Kirby, et al. and Brock, et al. and further in view of Sayovitz, et al. (U.S. Patent No. 6,093,665). Sayovitz et al. discloses the use of bicomponent fibers in a nonwoven web. Applicants assert that the prior arguments regarding Kirby et al. and Brock et al. eliminate this rejection. In light of the foregoing considerations, Applicants respectfully submit that the present

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invention is indeed patentable over Kirby et al., Brock et al., and Sayovitz et al. because none of the references teaches a nonwoven web or method of making a nonwoven web that is strong, abrasion resistant *and* soft.

Conclusion

In light of the above remarks, it is requested that the Examiner reconsider and withdraw the rejections. Early and favorable action in the case is respectfully requested.

Applicants have made an earnest effort to place their application in proper form and to distinguish the invention as now claimed from the applied references. In view of the foregoing, Applicants respectfully request reconsideration of this application, entry of the amendments presented herein, and allowance of Claims 1-5 and 7-11.

Respectfully submitted,
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